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Answer to the letter to the editor of Koen van Boxem et al. concerning manuscript "Injection therapy and denervation procedures for chronic low-back pain: a systematic review" by Henschke N, Kuijpers T, Rubinstein SM, van Middelkoop M, Ostelo R, Verhagen A, Koes BW, van Tulder MW

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**Answer to the Letter to the Editor of Koen Van Boxem et al.
concerning manuscript “Injection therapy and denervation
procedures for chronic low-back pain: a systematic review”
by Henschke N, Kuijpers T, Rubinstein SM, van Middelkoop M,
Ostelo R, Verhagen A, Koes BW, van Tulder MW,
Eur Spine J, 2010**

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To the editors,

We appreciate the opportunity to respond to the letter regarding our article: “Injection therapy and denervation procedures for chronic low-back pain: a systematic review” [1]. This letter challenges the clinical value of our review, suggesting that the choice of inclusion and exclusion criteria displays a lack of clinical expertise within the review team. This is supported by claims that we have compared the results from trials evaluating pain syndromes with different underlying mechanisms and analysed treatments with no indication in a clinical setting.

As researchers, we fully support the inclusion of different stakeholders, including clinical experts and experienced methodologists, in the design and conduct of systematic reviews. However, we feel that the letter is unjustified in criticising our review team for not producing clinically relevant results. The concerns are related to decisions, which were made by our team about the types of interventions and the population to be studied in the systematic review. These were made in the attempt to provide an independent overview (commissioned by the Dutch Health Insurance Council) of all relevant studies on injection therapy and denervation procedures for chronic low-back pain, in preference to a more selective review on only one specific intervention. We are confident that our

methods and conclusions are scientifically correct and clinically relevant. They are also consistent with other systematic reviews and clinical guidelines which were conducted and published by clinicians with ample expertise in low back pain management and research [2, 3].

The challenges faced when systematically reviewing the evidence on interventions for chronic low-back pain include the lack of clear information about the causes of chronic low-back pain and poor understanding of patient heterogeneity. While recent recommendations by the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) group support a “mechanism-based” treatment approach in which therapeutic interventions target the specific mechanisms of a patient’s pain, the group also acknowledges that it is not yet possible to fully identify these mechanisms and to specify which treatments would target them [4]. While these recommendations hopefully lead to better randomized trials in the future, many trials that have already been published do not fulfil the IMMPACT recommendations and this is reflected in systematic reviews. With regard to chronic low-back pain, it is generally accepted that a specific mechanism for the pain cannot be identified in a large majority of patients [5]. A distinction is often made, however, based on the duration of the pain as acute, sub-acute, and chronic low-back pain. As our review focused on patients with chronic low-back pain, it is misguided to criticise our review for not including studies on patients with sub-acute low-back pain.

Due to the heterogeneity of the interventions evaluated by the primary studies included in our review, an attempt to improve readability was made by grouping the results in broad anatomical areas (intervertebral disc, facet joints, epidural space, spinal muscles). As can be observed, studies of different treatment options were not pooled and no conclusions are made regarding the evidence for injection

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therapy or denervation procedures within these broad anatomical areas. A degree of prudence was exercised to ensure that the conclusions of the systematic review did not extrapolate beyond what was available in the primary studies. Despite the claim that some of the interventions included in the review have no indication in clinical practice, in general, the evidence for injection therapy and denervation procedures is limited and recent clinical guidelines and published systematic reviews [2, 3, 6] have highlighted this.

Unfortunately, many studies in this field suffer from poor reporting and substantial methodological shortcomings and this is reflected in the lack of high-quality evidence. While it is easy to criticise a systematic review for not producing clinically relevant results, we are confident that our review has objectively evaluated the available primary studies. This systematic review shows that the methodological quality and clinical relevance of original trials on injection therapy and denervation techniques for chronic low-back pain should be improved. We maintain that the clinical value of this review lies in the finding that at present there is limited evidence to support the use of injection therapy and denervation procedures as interventions for chronic low-back pain.

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